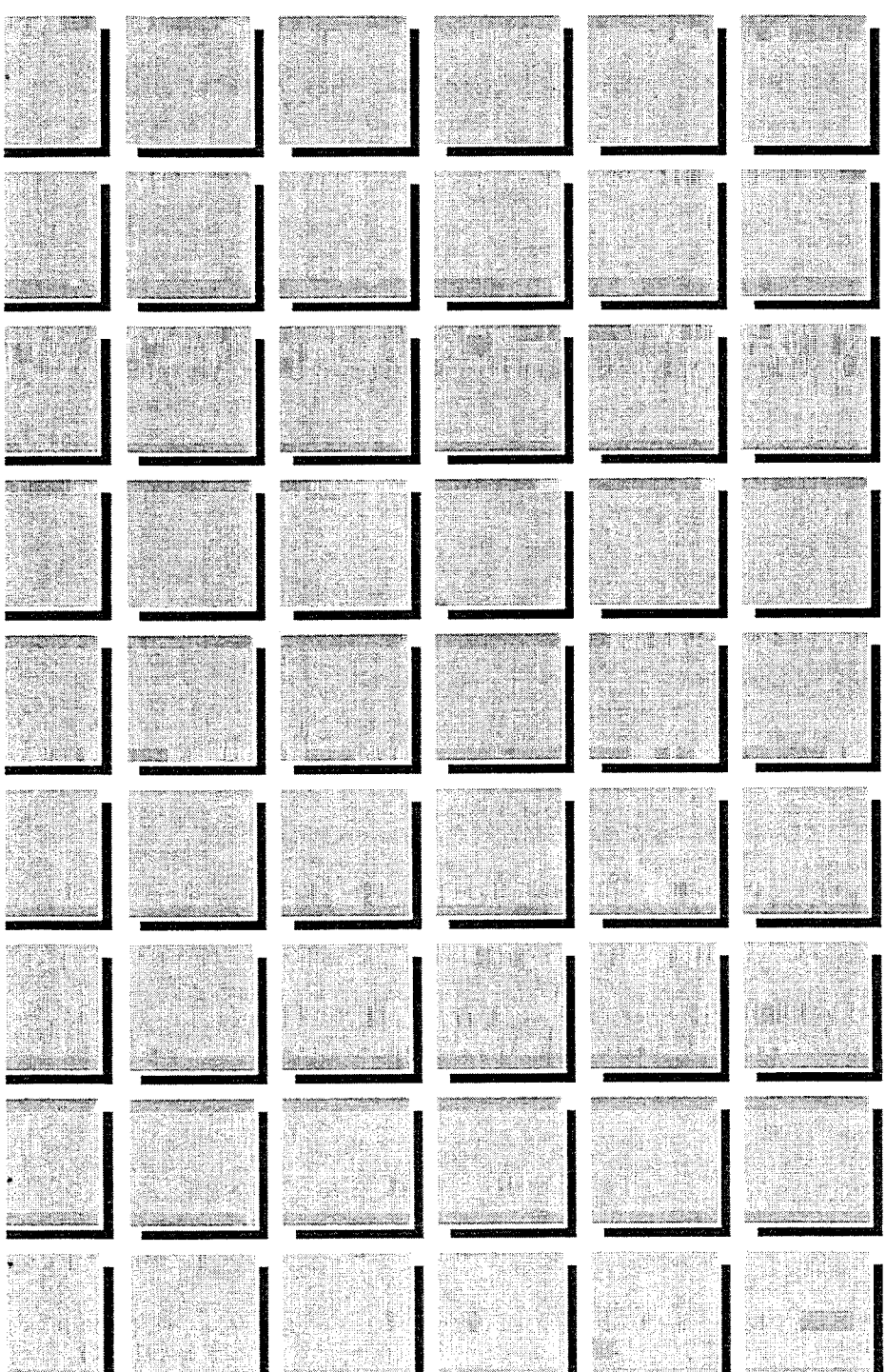
Panasonic



Operating Instructions

ColourTelevision

TX-28X2E
TX-25X2E

Please read these instructions completely before operating this set and retain them for future reference

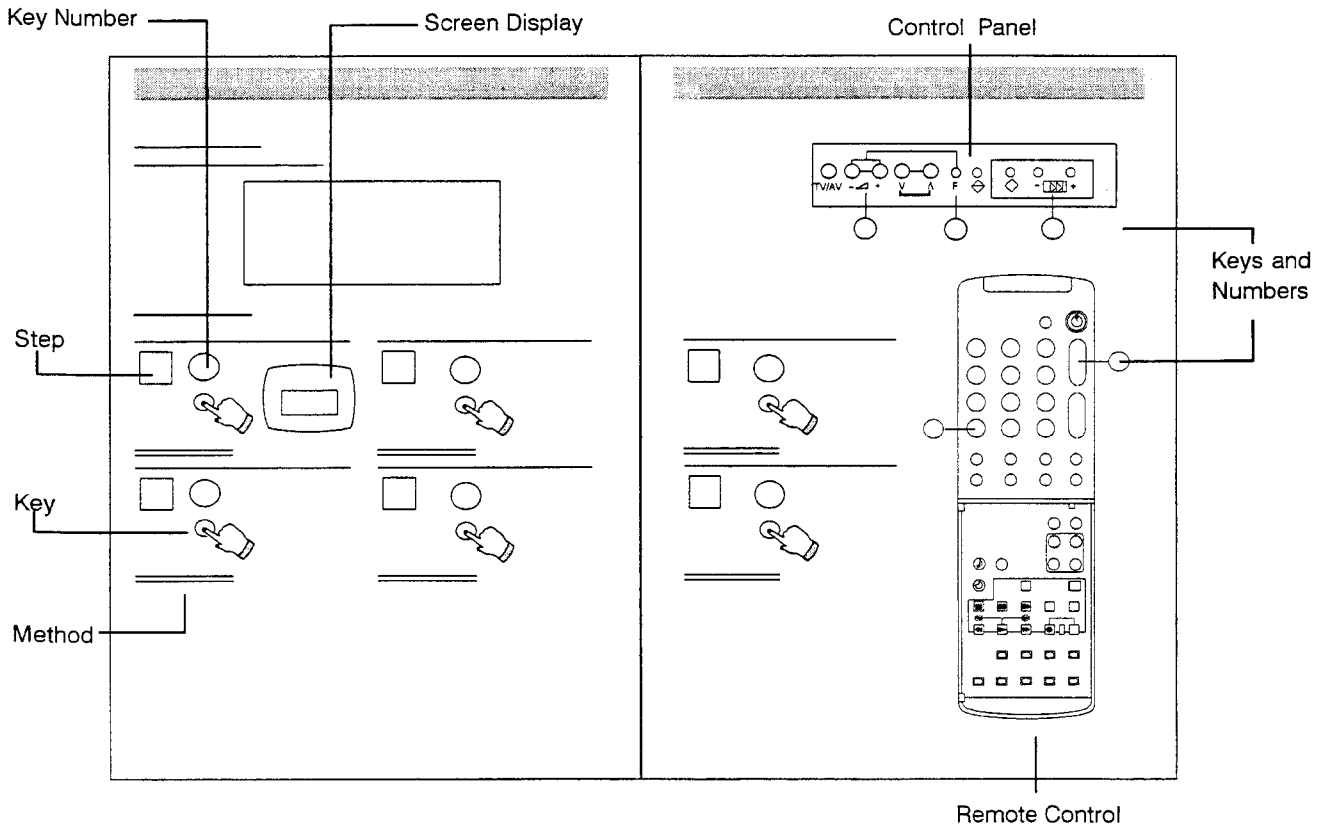
TQB8E0856

Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you have many years of enjoyment from your new colour television. This is a very sophisticated TV; the best way to understand the features is to read this book thoroughly, before operating the set.

How to use these Operating Instructions

These Operating Instructions are laid out as shown below, please study the layout before proceeding any further.



Contents

Preparation

Warnings and Precautions 2
General Information 2
Features of this TV 3
Accessories 3
Battery Installation and Replacement 4
Aerial Connection 5

Tuning Procedure

Switching the TV on / off 6
Tuning–in the channels 6

General Operation

Basic functions 7
Sound control functions 8
Video control functions 9

Features Operation

Features Operation 10
Advanced Features Operation 12
Teletext Operation 14
VCR Operation 18

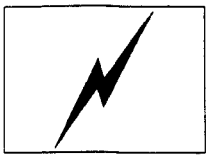
Audio / Video (A/V) Connections

AV1 / AV2 21 pin terminals 20
AV3 S–Video 4 pin terminal 20
AV2 RCA Audio Out terminals 20
AV3 Video and Audio (RCA) terminals 21
Headphones 21

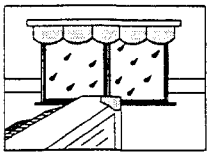
Reference Information

Trouble–shooting 22
Specifications 23

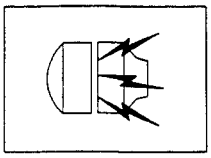
Warnings and Precautions



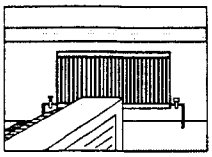
This TV set is designed to operate on A.C. 220V–240V, 50Hz.



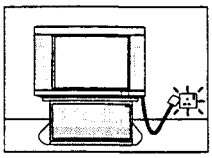
To prevent damage which might result in electric shock or fire, do not expose this TV set to rain or excessive moisture.



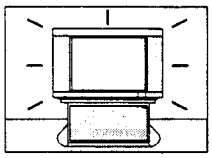
WARNING: HIGH VOLTAGE !!!
Do not remove the rear cover as live parts are accessible when it is removed. There are no user serviceable parts inside.



Avoid exposing the TV set to direct sunlight and other sources of heat.

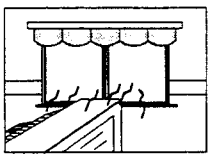


Remove the mains plug from the wall socket when the TV set is not used for a prolonged period of time.



CABINET AND PICTURE TUBE CARE
Remove the mains plug from the wall socket. The cabinet and picture tube can be cleaned with a soft cloth moistened with mild detergent and water. Do not use solutions containing benzol or petroleum. TV sets can produce static electricity, care must be taken whenever touching the TV screen.

SPEAKER GRILLE CARE
Remove dust with a vacuum cleaner after attaching a brush adaptor. Do not let the vacuum cleaner pipe come into direct contact with the speaker (without the adaptor). Do not use any cleaning fluids or liquids on the speaker grilles.
Care must be taken with the speaker grilles as they are easily pierced by sharp objects.



Adequate ventilation is essential to prevent failure of electrical components.

General Information

Service

Before requesting service, please refer to the trouble–shooting guide on page 22 to determine the symptoms. To obtain service please contact your local Panasonic dealer quoting the model number and serial number (both are located at the rear of the TV).

TV. Games / Home Computers

Extended use of TV games or home computers with any television set can cause a permanent 'shadow' on the screen. This type of irreversible picture tube damage, can be limited by observing the following points :

1. Reduce the brightness and contrast levels to a minimum viewing level.
2. Do not operate the television set for a continuous period of time while using TV games or home computers.
3. This type of picture tube damage, is not an operating defect, and as such is not covered by the Panasonic warranty.

Last Position Memory

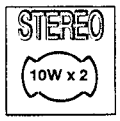
Certain functions have a last position memory, i.e. the setting at the time of switch off will be the setting used when the receiver is switched on again :–

Programme
AV Position
Volume
Stereo mode
Bass
Treble
Balance

Colour
Brightness
Contrast
Sharpness
Standby
Music / Speech

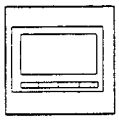
Features

NICAM Stereo Sound System



Fastext Teletext

On Screen Displays



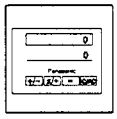
AV In / Out (Rear)
AV In (Front)

S–Video Input

Multi–function Remote Control
(TV / Teletext / VCR (Panasonic))

51 Position Tuning System
(1 – 50 plus VCR)

Advanced Features
Calculator

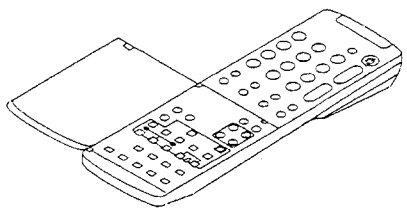
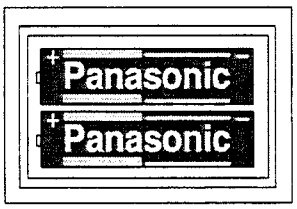


Calendar

On Timer

Accessories

Check and identify the supplied accessories before setting up this T.V. set.

	
Remote Control Transmitter (TNQ8E0463)	Batteries for the Remote Control Transmitter. (2 x R6 (UM3) size)

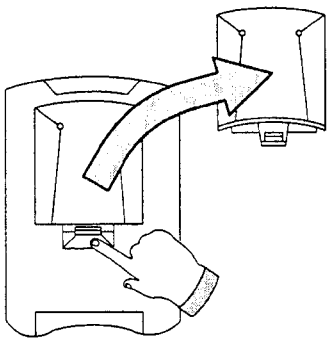
Battery Installation and Replacement

Batteries : Use two R6 (UM3) dry cells (supplied).

Important Note

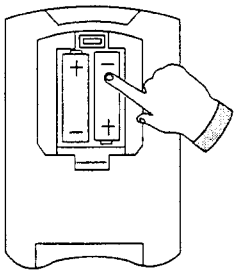
If experiencing any remote control malfunctions or reduction in operating distance please check and replace batteries and clean indicator window.

A



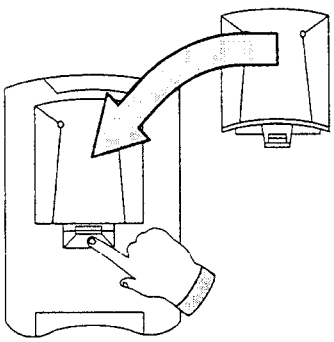
Remove the remote control battery compartment lid by prising it upwards.

B



Insert the batteries correctly observing the polarities (+) and (−).

C



Replace the cover.

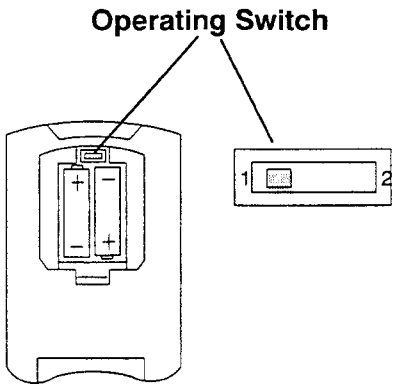
Precautions

1. Do not use an old battery with a new one.
2. Ensure the batteries are inserted with the correct polarity.
3. Do not use rechargeable (Ni−Cad) batteries.
4. Do not mix battery types, i.e. Alkaline and Manganese.
5. Remove flat batteries and dispose of them immediately.

Please contribute to environmental protection

1. Used batteries and rechargeable batteries do not belong in the normal household rubbish.
2. Please contact your local community office for information regarding special collection places where you can return the used batteries.
3. Please enquire if used batteries, with the recycling symbol, may be handed back to the shop at which they were purchased.

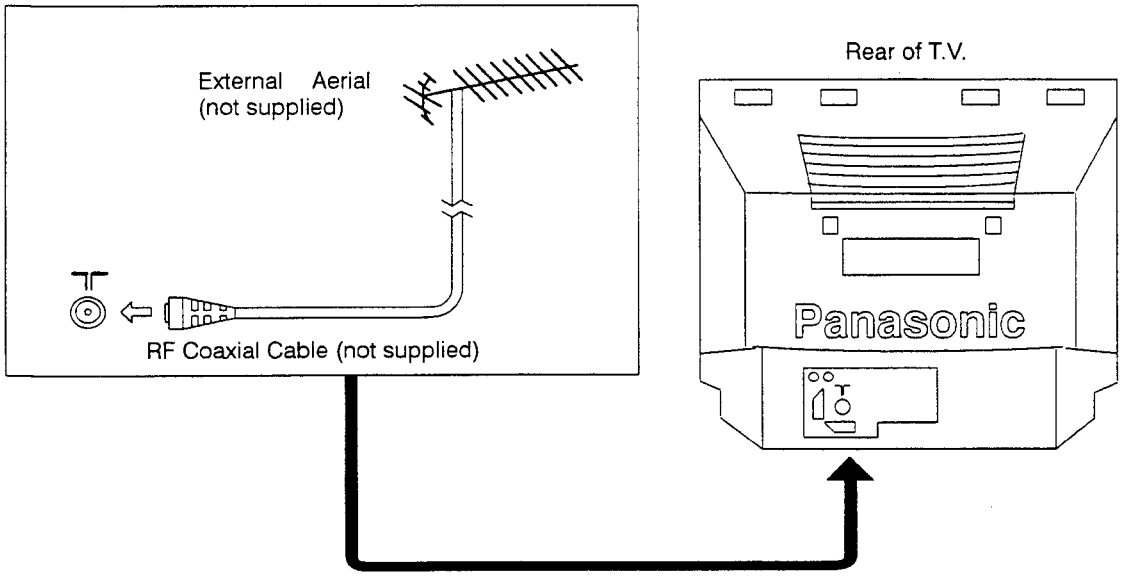
Operating Switch



If any difficulty is encountered when using this remote control with Panasonic video tape recorders please check the operation of the video recorder with the operating switch set at position one and again with the switch set at position two.

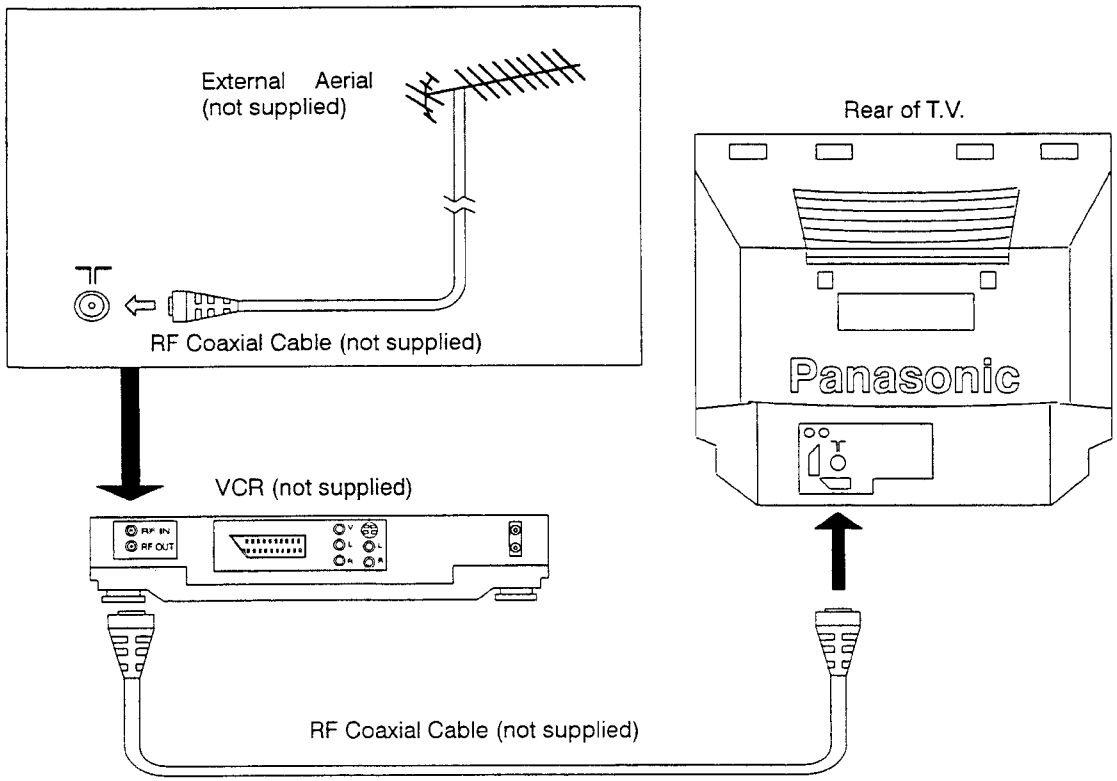
Connecting the aerial

Connect your Aerial to the RF IN socket at the rear of the TV.



Connecting the aerial via a Video Recorder

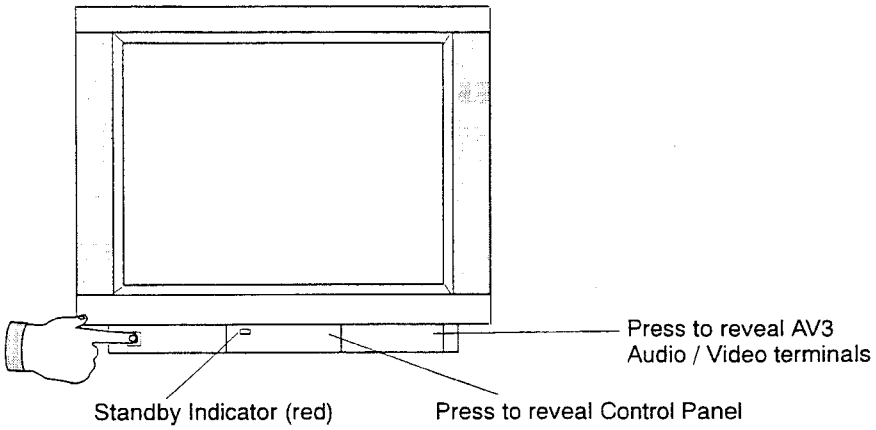
Connect your Aerial to the RF IN socket at the rear of the VCR. Connect an RF coaxial cable between the VCR RF OUT socket and the TV RF IN socket.



Note : For information on how to connect a VCR to this TV using Audio / Video cables refer to pages 20 and 21.

Switching the TV on / off

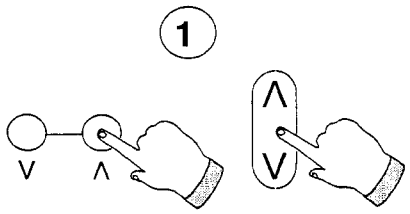
To switch ON or OFF press the Power on / off button on the front of the TV.
If the power to this TV is interrupted whilst it is switched on, when power is returned the TV will automatically switch back on.



Tuning–in the channels

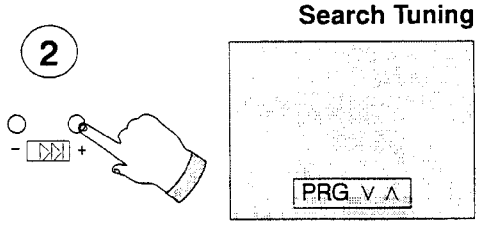
This TV will receive the following transmission standards :– PAL B/G.

A



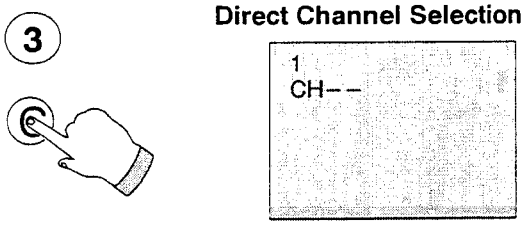
Press programme up/down to select the programme position on which to store the channel.
Note :
When tuning the TV into a VCR, position '0' should be selected.

B



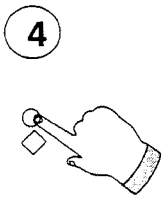
If the local channel numbers are known proceed to step NO TAG. Press SEARCH up or down buttons until the desired channel is on screen.
(If a hyperband channel is required, continue tuning past the normal channels).
Now proceed to step D.
Note : If the channel received has a weak signal, it is advisable to continue tuning until a stronger signal is received.

C



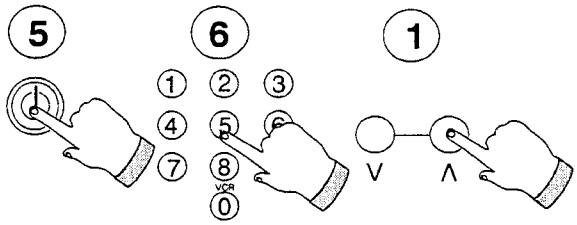
Only use this step if the local channel numbers are known.
Press the 'C' key, on the remote control.
(If a hyperband channel is required press the BLUE key next).
Input the channel number as two digits using the numeric keys within six seconds. (e.g. for channel 25 press 2 and 5).
The screen will display the channel.

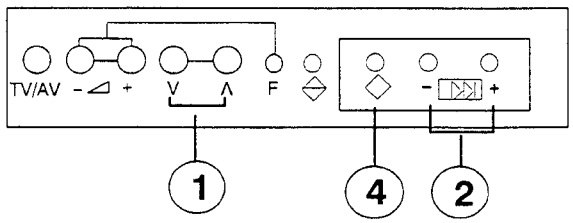
D



Press the STORE button to store the channel.
The display will flash.
Repeat steps A – NO TAG to store other channels if desired.

Standby mode

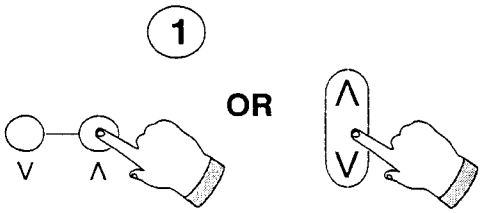




Press to switch the TV. off for a period of time.
To switch back on perform one of the following :
1. Press Standby again.
2. Select a programme position from 0 – 9 on the remote control.
3. Press programme Up / Down on the TV.

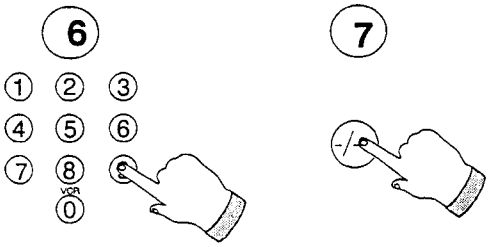
Note : If the TV. is in Standby mode it is not possible to switch it back on using the Power switch (located at the front of the TV.).

Programme Position Selection



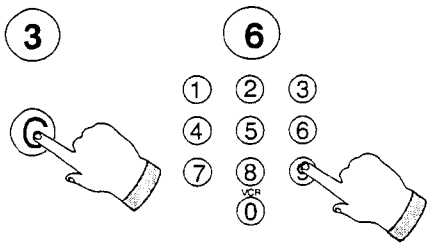
Press to change programme position by one.

OR

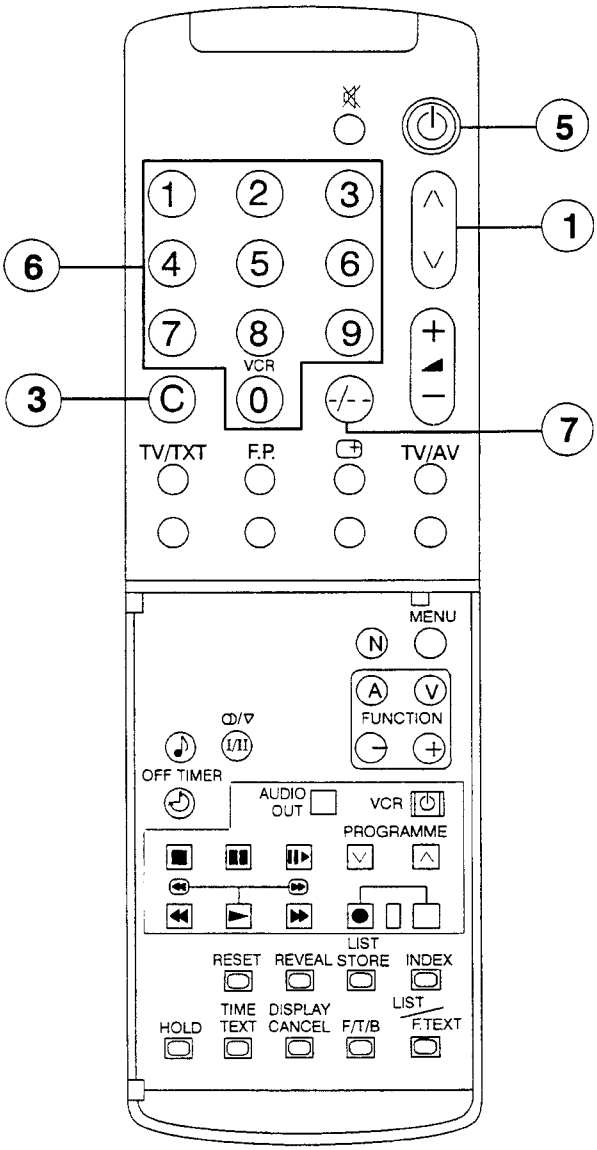


To select a programme between 0 – 9 press numeric key once.
To select a programme position between 10 – 50 press the -/-- key followed by the numbers required.

Direct Channel Selection

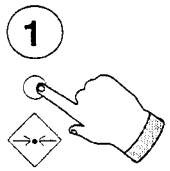


Press the 'C' key.
(To tune in a hyperband channel press the BLUE key).
Press the numeric keys within five seconds. (e.g. for channel 5 press 0 and 5).
The screen will display the channel.



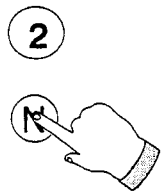
Note: Certain functions will display a coloured bar on screen for a short period of time.

Normalisation Store



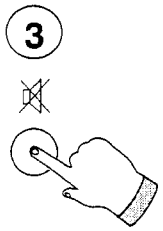
Adjust the Volume, Colour, Brightness, Contrast and Sharpness to desired viewing levels. Press to store these levels in memory.

Normalisation



Press to recall the levels previously set with Normalisation Store.

Sound Mute



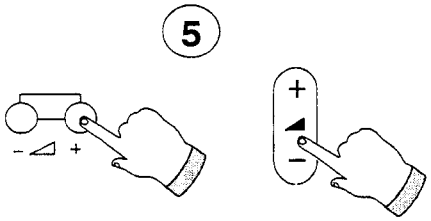
Press to mute or restore the sound.
Displayed as a red bar.

Off Timer

Press to select the required Off Time of 30, 60 or 90 minutes. The selected time will be displayed in the bottom right of the screen.
To cancel press until the screen shows '0'.

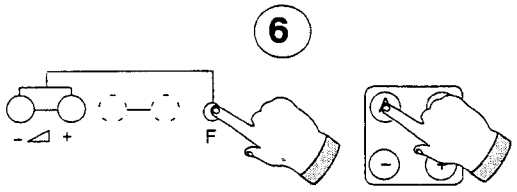
Sound Control Functions (A)

Volume



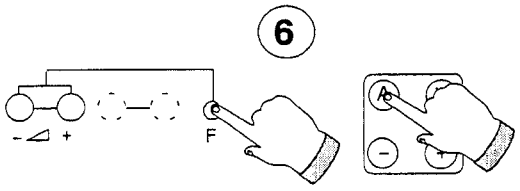
Press + or − to adjust.
Displayed as a green bar.

Bass



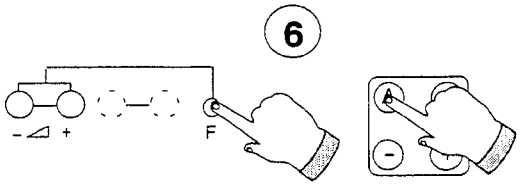
Press to select.
Press + or − to adjust.
Displayed as a green bar scale.

Treble



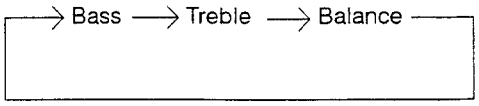
Press to select.
Press +or − to adjust.
Displayed as a green bar scale.

Balance



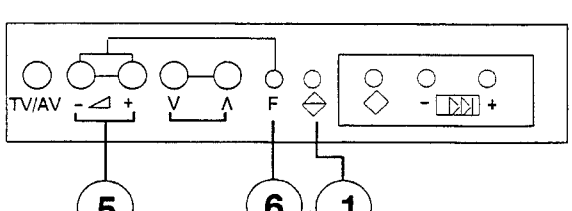
Press to select.
Press + or − to adjust.
Displayed as a green bar.

Sound Selection Sequence (A) – Remote Control Operation

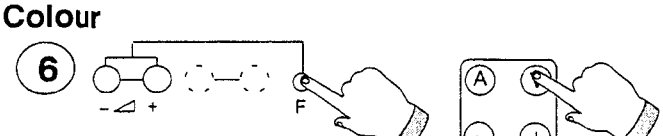


Note: Certain functions will display a coloured bar on screen for a short period of time.

Video Control Functions (V)

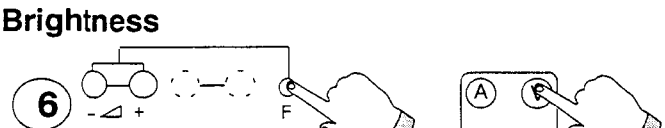


Colour



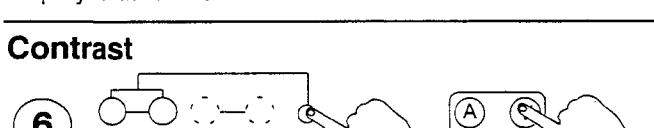
Press to select.
Press + or – to adjust.
Displayed as a red bar.

Brightness



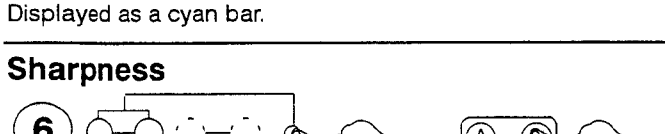
Press to select.
Press + or – to adjust.
Displayed as a white bar.

Contrast



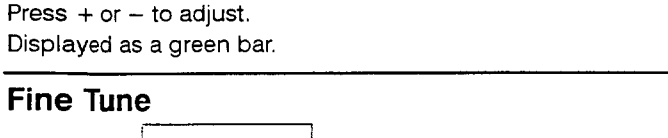
Press to select.
Press + or – to adjust.
Displayed as a cyan bar.

Sharpness

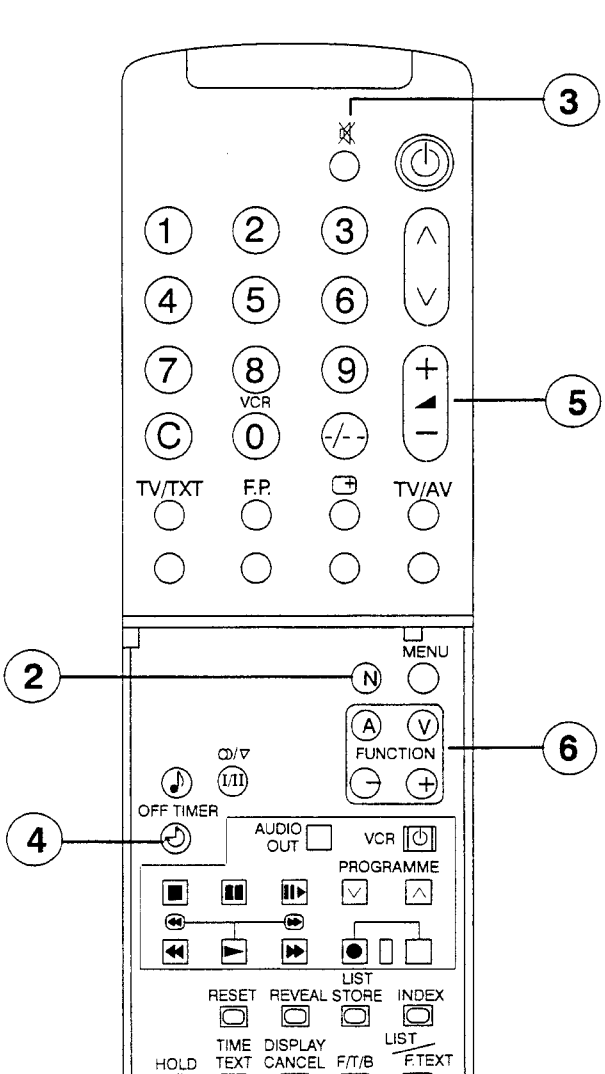


Press to select.
Press + or – to adjust.
Displayed as a green bar.

Fine Tune



Press to select.
Press + or – to adjust.
Displayed as a green bar.



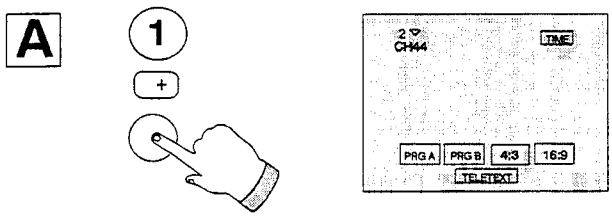
Video Selection Sequence (V) – Remote Control Operation

Colour → Brightness → Contrast → Sharpness → Fine Tune →

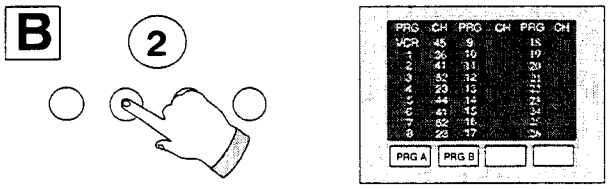
Combined Selection Sequence (F) – TV Operation

Colour → Brightness → Contrast → Sharpness → Fine Tune → Bass → Treble → Balance →

Status / Programme Table



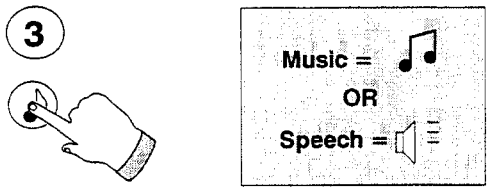
Press to display the time, channel number, programme position, Audio system and Teletext system, if transmitted. The programme position and Audio system will remain on screen, press Status again to remove.



Press the RED or GREEN keys to show the Programme Tables.
The programme and channels will be displayed.
Press STATUS to return to TV mode.

Music / Speech

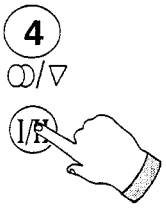
The sound can be improved during Music or Speech mode by selecting the appropriate function.



Press Music / Speech to select appropriate function.
Displayed on screen for a short period of time.

NICAM Stereo Sound System

(Only when receiving NICAM sound transmissions)
To receive Stereo broadcasts, this TV incorporates two decoders, one for NICAM Digital Sound, the other for Normal Stereo Sound.



Stereo transmissions
Press to switch between NICAM Stereo, Normal stereo and Mono sound output. The screen will display the following :

Sound Output	Screen Display
NICAM / Normal stereo	⊙⊙
Mono	▽

NICAM Mono transmissions
Press to switch between NICAM Mono I, Bilingual I, NICAM Mono II, Bilingual II and Mono. The screen will display the following :

Sound Output	Screen Display
NICAM Mono I / Bilingual I	I
NICAM Mono II / Bilingual II	II
Mono	▽

Notes :

1. The sound outputs available are dependant upon what is transmitted on the received channel.
2. If the receiving conditions deteriorate, it is advisable to switch to Mono mode.
3. To distinguish between NICAM and normal Stereo reception please consult your local Panasonic dealer for transmission information.

TV / AV Selection

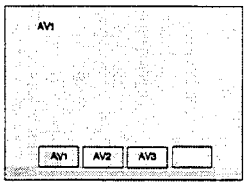
Note : Examples of Audio / Video connections are shown on pages 20 / 21.

Use this step for remote control operation

A

5

TV/AV



Press TV / AV key to switch to AV mode.

B

2

Press RED key to select AV1.
Press GREEN key to select AV2.
Press YELLOW key to select AV3.
Press TV/AV key to return to TV mode.

Use this step for TV operation

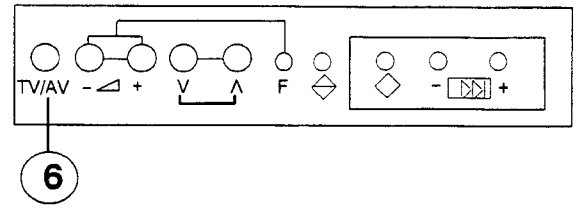
6

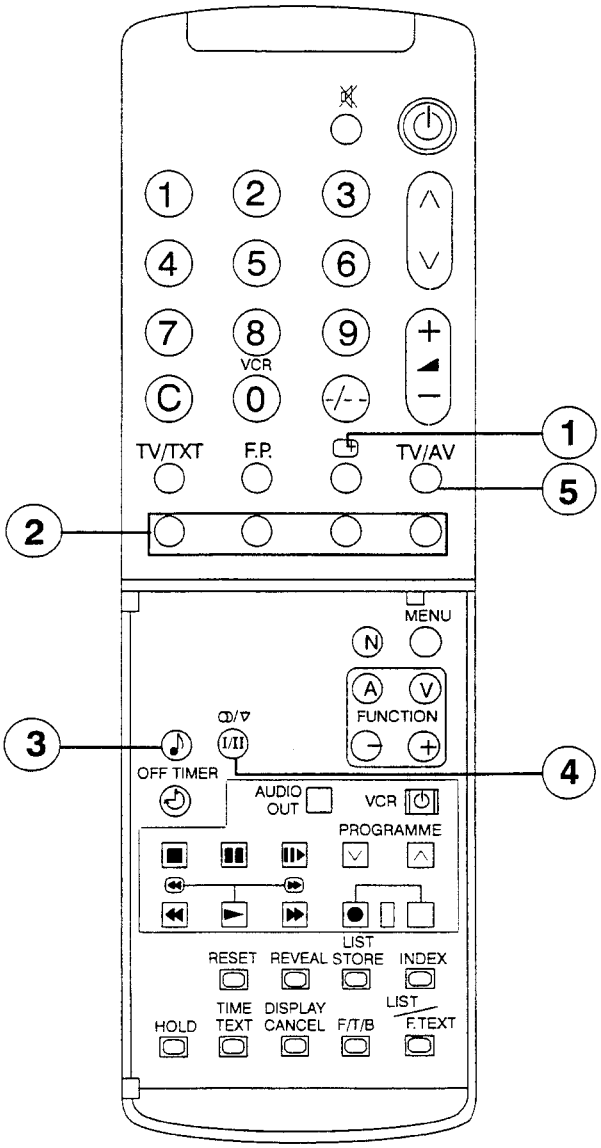
TV/AV

Press to rotate through AV1, AV2, AV3, and TV mode.

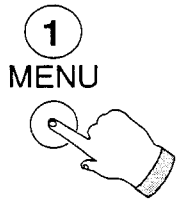
Notes:

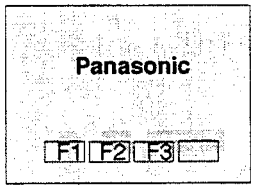
1. Connecting a VCR to the AV1 or AV2 21 pin terminals will automatically switch the TV to AV mode when play is selected. If AV1 and AV2 are connected simultaneously, AV1 will have priority over AV2.
2. When connecting a S–Video VCR to the AV2 21 pin terminal, the S–Video switch at the rear of the TV must be in the down position, ensuring correct display of the picture.
3. If two S–Video inputs are connected via the AV2 21 pin terminal and the AV3 4 pin terminal, the AV2 input will be displayed on screen, AV3 must be selected manually to appear on screen.
4. The AV2 21 pin terminal is equipped with constant 'Monitor Out'. This means that the output from the AV2 21 pin terminal will be whatever is displayed on the screen e.g. tape playback from another source, AV1.





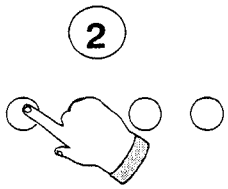
On Screen Features

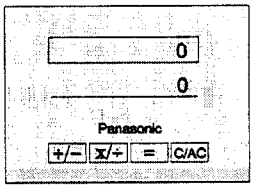




Press to display Menu options.

Calculator

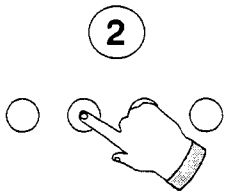


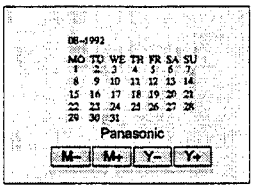


Press RED (F1) button to display Calculator feature.
An eight digit display that will calculate to eight decimal places, with Addition / Subtraction / Multiplication and Division.

1. Enter the first line using programme / channel selection.
2. Press RED or GREEN to select +/−/x/÷ .
3. Enter second line of calculation.
4. Press YELLOW for answer.
5. Press BLUE to clear the calculation.
   To enter a decimal point press −/− −.
   To return to Menu selection press MENU button once.
   To exit press MENU button twice.

Calendar

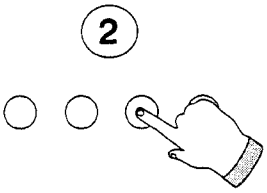


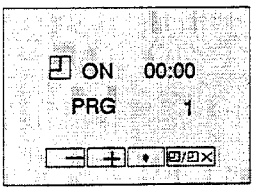


Press GREEN (F2) button to display Calendar feature.
Displays any month / year from 01 / 1901 to 12 / 2100.
Press programme / channel selection for direct selection of month and year.

1. Press RED to display previous months.
2. Press GREEN to display future months.
3. Press YELLOW to display previous years.
4. Press BLUE to display future years.
   To return to Menu selection press MENU button once.
   To exit press MENU button twice.

On Timer





Press **YELLOW** (F3) button to display On Timer feature.
Switches the T.V. on after an elapsed time.

1. Press **RED** or **GREEN** to decrease or increase the hours.
2. Press **YELLOW**, then **RED** or **GREEN** to decrease or increase the minutes in blocks of ten minutes.
3. Press **YELLOW**, then **RED** or **GREEN** to decrease or increase the programme position (0−50).
4. Press **BLUE** to store (the display will be red).
5. Press **BLUE** again to cancel or press **STANDBY** to begin.
   To return to Menu selection press MENU button once.
   To exit press MENU button twice.

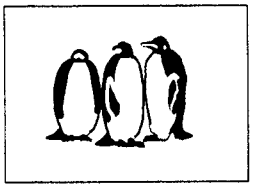
Picture Format Selection (Aspect)

When receiving a 16:9 format signal select to obtain the correct picture height on screen.

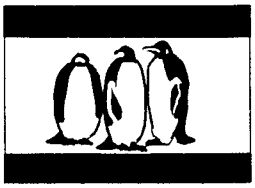
16 : 9 Wide screen picture viewing
4 : 3 Normal picture viewing

Note : A correct 16:9 picture format is only possible when a 16:9 signal is received through the AV 21 pin terminals. It is possible to switch a normal 4:3 signal into 16:9 mode, but this is for effect only and does not accurately represent the 16:9 picture format.

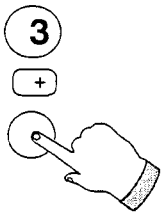
Aspect 4 : 3

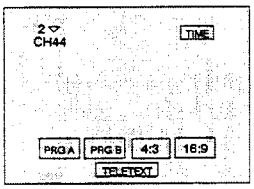


Aspect 16 : 9



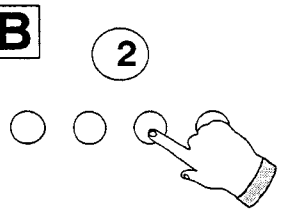
A



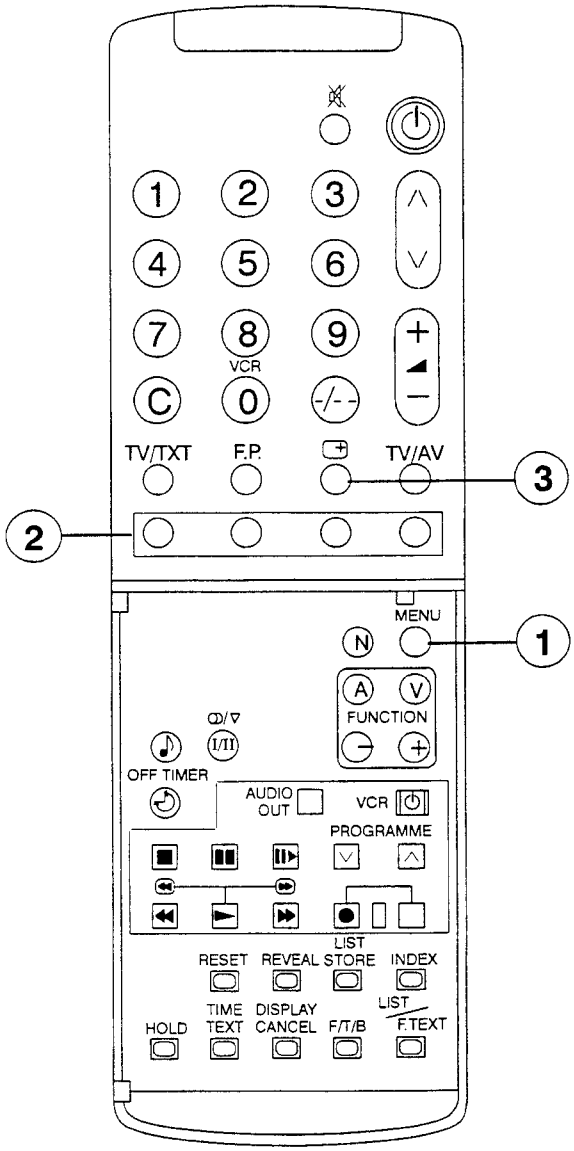


Press STATUS.

B



Press YELLOW to select 4:3 aspect ratio.
Press BLUE to select 16:9 aspect ratio.
Note : Picture format cannot be changed whilst in Teletext mode.

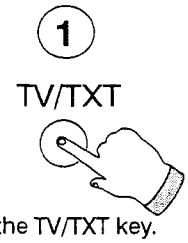


Introduction

Teletext is the broadcasting of pages of information on your T.V. screen containing such subjects as News, Sport, Weather, Travel and T.V. guides. All Teletext features are operated via the Remote Control.

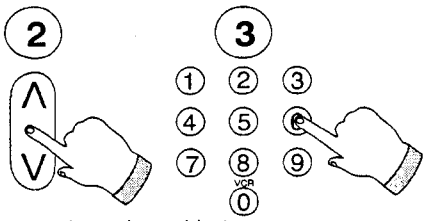
1. Teletext is only available if the channel selected is transmitting Teletext.
2. Teletext features may vary depending on the Broadcasting Companies.

TV / Teletext mode



Press the TV/TXT key.
The screen will display a Teletext page.
Press again when you wish to return to TV. mode.

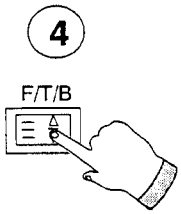
Page Selection



Pages can be selected in two ways :

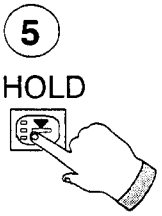
a. Press the Up / Down keys to increase or decrease the page number by one.
b. By entering the page number, using 0 –9 on the remote control.

Full / Top / Bottom



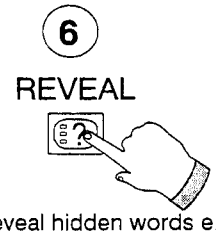
Press to expand the TOP half of the page.
Press again to expand the BOTTOM half.
Press again to return to normal (FULL) size.

Hold



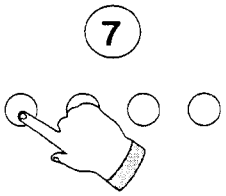
Press to hold the current page.
Press again to cancel the hold.

Reveal



Press to reveal hidden words e.g. quiz page answers.
Press again to hide.

Red / Green / Yellow / Blue keys

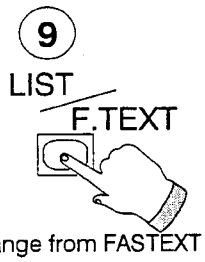


In FASTEXT mode these correspond to the differently coloured subjects.
In LIST mode they correspond to the differently coloured page numbers.

List Store

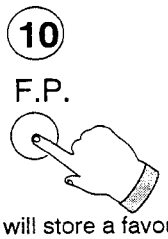
In LIST mode the four page numbers can be altered for channel positions 1 – 25 only.
To do this, press one of the coloured keys and enter the new page number.
Press and hold List Store, the page numbers will change colour.

List / F.text

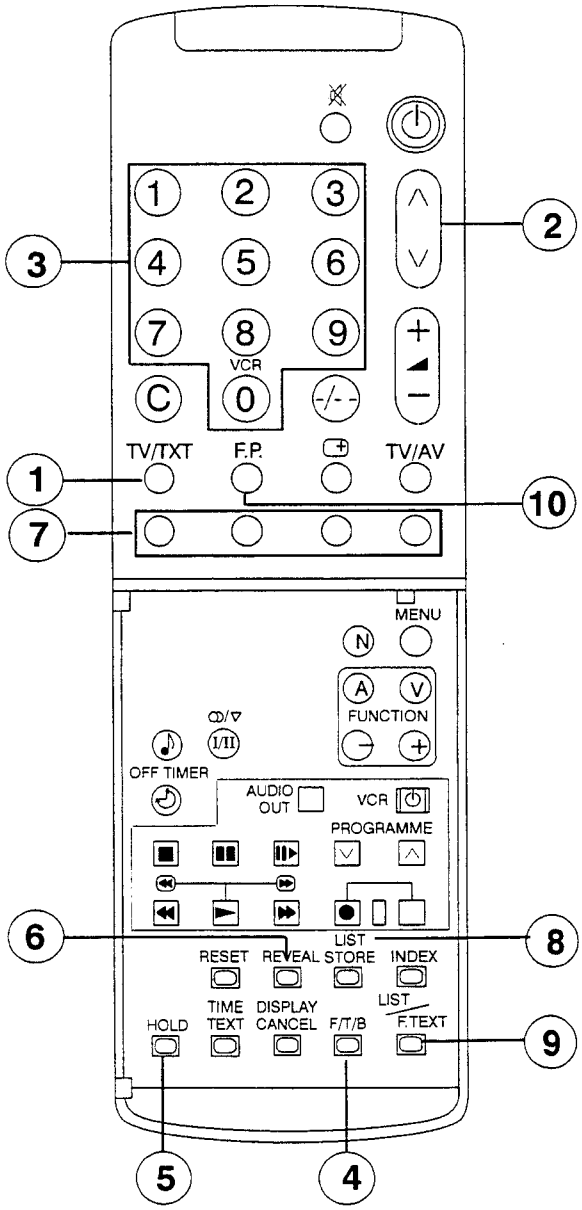


Press to change from FASTEXT mode to LIST mode and vice versa.
In FASTEXT mode four differently coloured subjects are displayed at the bottom of the page. Press the appropriate coloured key to access more information about one of these subjects.

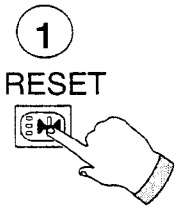
Favourite Page (F.P.)



This feature will store a favourite page number in the TV memory and will be instantly recalled when pressed. To store such a page number, the TV must be in LIST mode, and the programme position must be from 1 – 10.
Press the BLUE key, select the page number, then press LIST STORE. The page number is now stored.
Press F.P. to recall this page number.
Note : Depending on the transmission sequence, when the F.P. key is pressed, the contents of the favourite page may take some time to appear. Only the page number is stored, not it's contents.

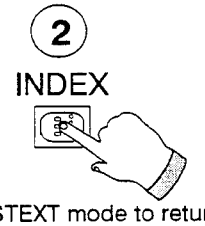


Reset



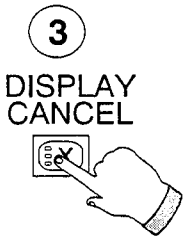
Press in FASTEXT mode to reset to the index page.
Press in LIST mode to reset to the RED coloured page.

Index



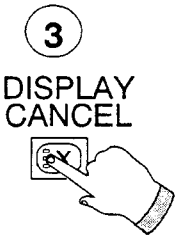
Press in FASTEXT mode to return to the main index page.
Depending on the way information is transmitted, this may have to be pressed more than once to return to the main index page.

Display Cancel



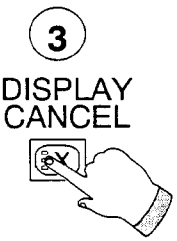
Press to view the TV. whilst searching for a Teletext page. When the page is found, the screen will display the FND symbol at the top left.
Press TV / TXT twice to view the page.
Press TV / TXT again to return to normal TV. operation.

News Flash



Press when a news flash page has been selected to view the TV. When an update of the news flash is received, it will be superimposed over the TV. picture.
Press again to remove updated news.
Press TV / TXT to return to normal TV. operation.

Update



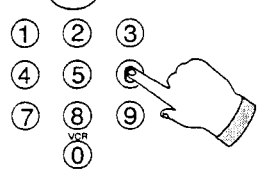
Press to see the update of information on certain pages.
When an update is received, a symbol will be displayed at the top left of the screen.
Press TV / TXT twice to view the page.
Press TV / TXT again to return to normal TV. operation.

Note: It is not possible to change the programme position when in News flash or Update mode.

Sub Coded Page Access

When teletext information exceeds more than one page, it may take some time for the automatic changing of the sub pages to reach the sub page you require. It is possible to enter your required sub page and continue watching the normal programme until the correct sub page is found.

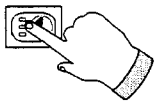
A (4)



Select the required page number using keys 0 – 9.

B (5)

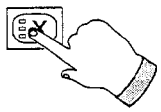
TIME TEXT



Press TIME TEXT, T**** will be displayed (top left of screen).
Enter desired sub page number before the T**** disappears.
To select page 6 enter 0, 0, 0 and 6.
If in LIST mode, a 'T' will appear in the current box at the bottom.

C (3)

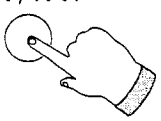
DISPLAY CANCEL



Press DISPLAY CANCEL to view a normal TV programme. A symbol will be displayed when the page is available.

D (6)

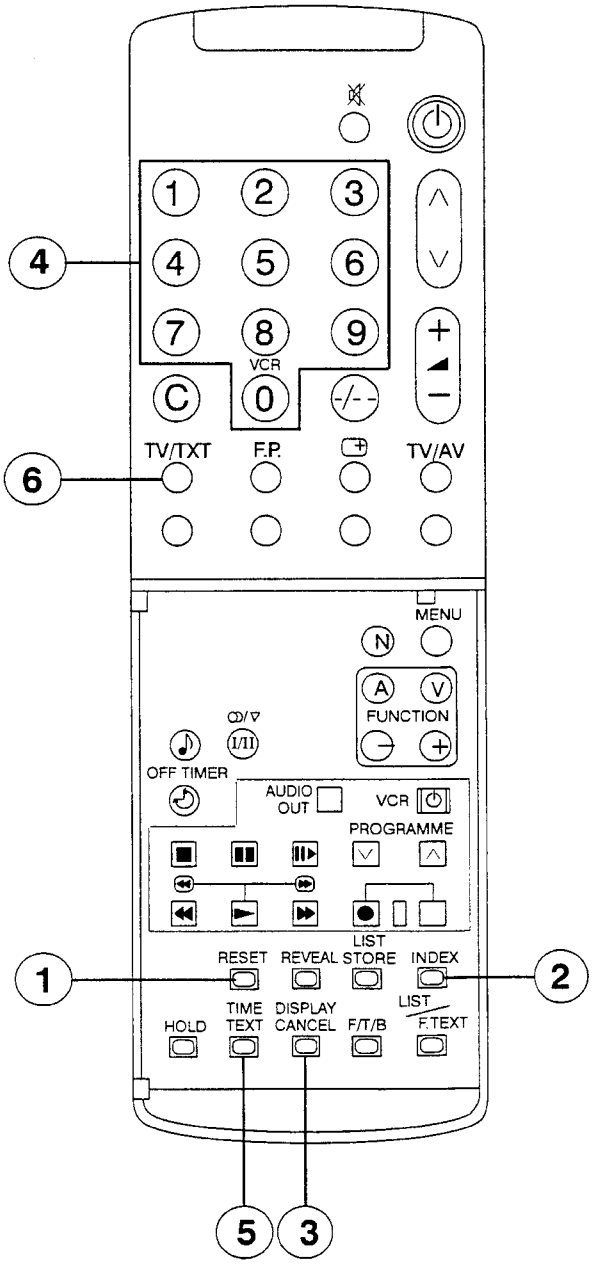
TV/TXT



Press TV / TXT twice to view the page.
To clear the page perform one of the following :

1. Press RESET to return to the main index page.
2. Select a new page number.
3. Press TV/TXT to return to normal TV operation.

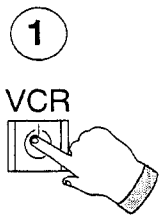
Note :
It is not possible to select another programme during Sub Coded Page Access.



VCR Operation

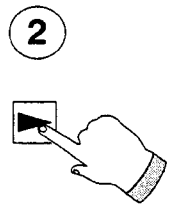
The Remote Control is capable of operating some functions of selected Panasonic VCR's, please consult you dealer for details. Some VCR's have different functions, so to ensure compatibility, please refer to the VCR instruction book.

Standby



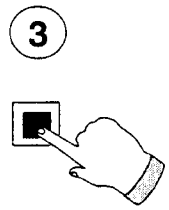
Press to switch the VCR to standby mode. Press again to switch back on.

Play



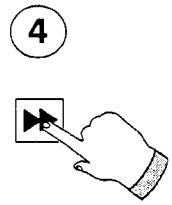
Press to playback the tape.

Stop



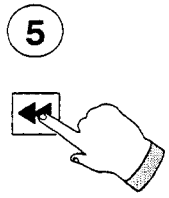
Press to stop the tape.

Fast Forward / Cue



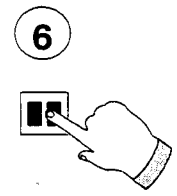
Press to fast forward the tape. In Play mode, press to view the picture rapidly forward.

Rewind / Review



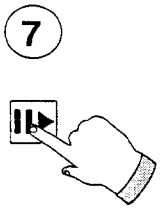
Press to rewind the tape. In Play mode, press to view the picture in reverse rapidly.

Pause / Still



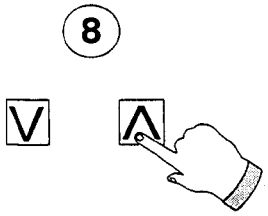
Press in playback mode, the picture will pause.

Still Advance



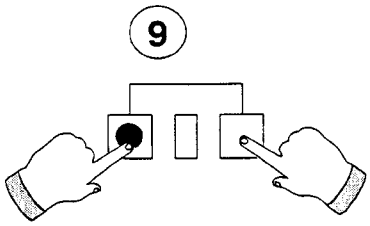
While in PAUSE / STILL mode, press to advance the picture one frame at a time.

Programme Up / Down



Press to increase or decrease the VCR programme position by one.

Record

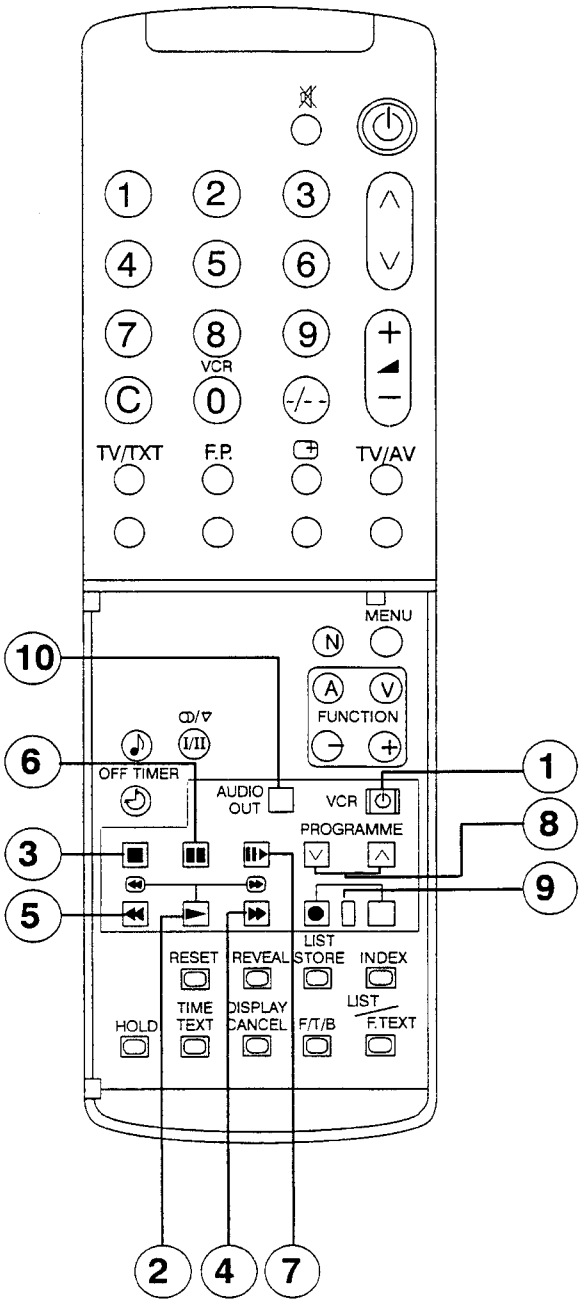


Press these together to record.

Audio Out Selection

If a Stereo Hi-Fi VCR is connected to this TV. press this key to select the sound output required.

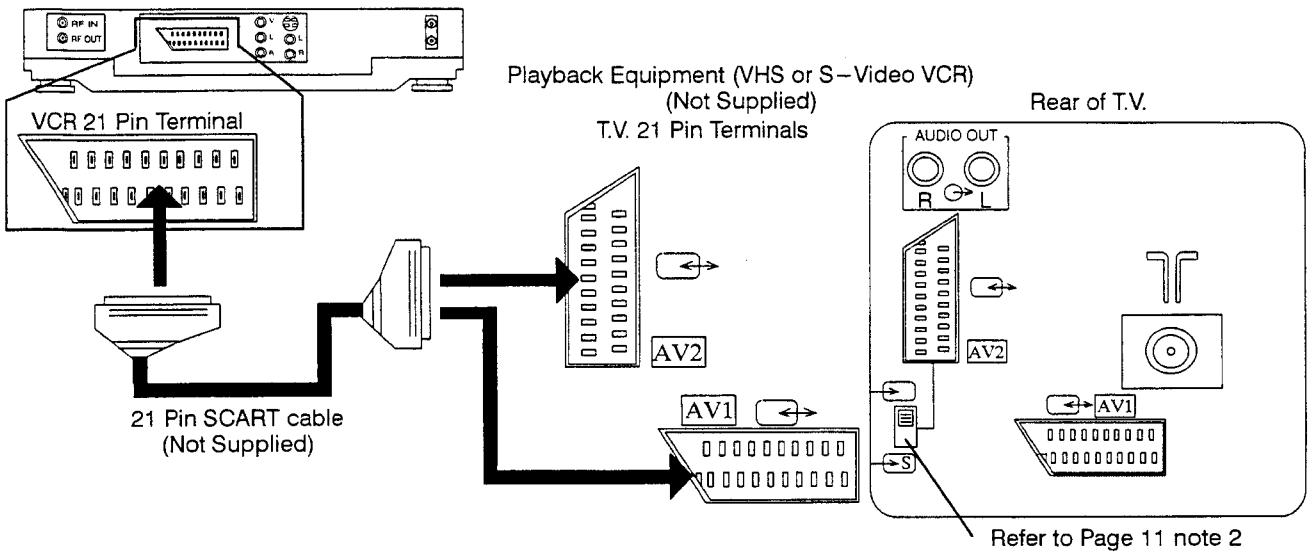
Note :
If any difficulty is encountered when using this remote control with Panasonic video tape recorders please check the operation of the video recorder with the operating switch set at position one and again with the switch set at position two.



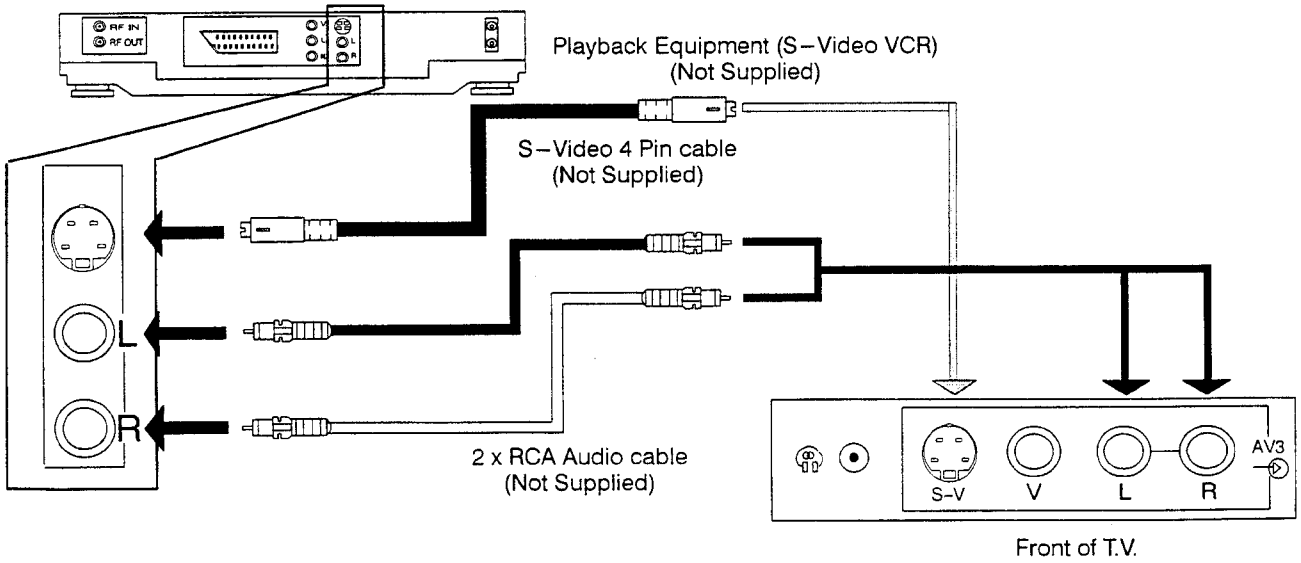
Via the 21 Pin (SCART) terminals

Notes :

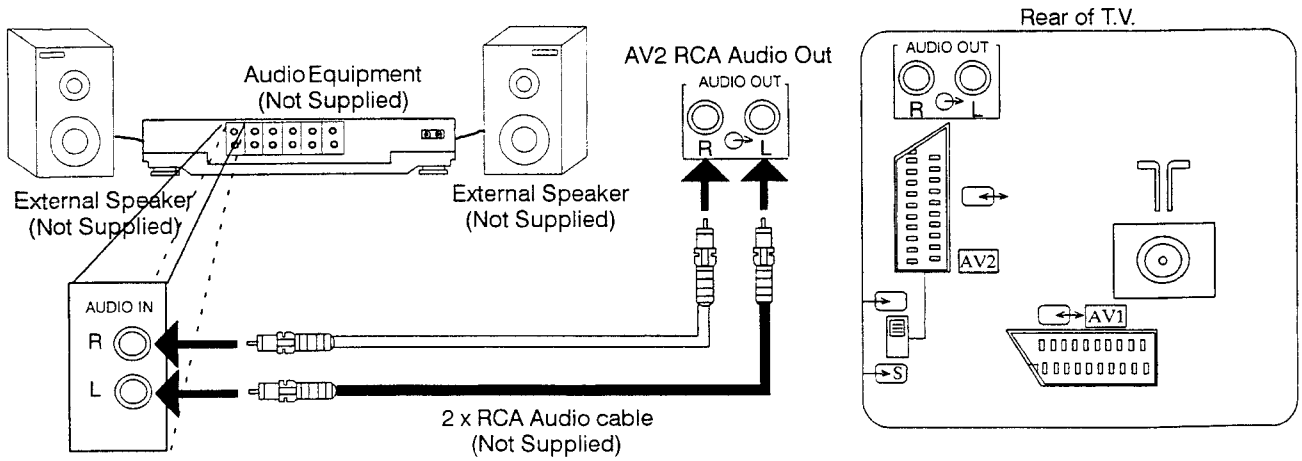
1. To connect a VHS VCR use the AV1 21 pin terminal.
2. To connect an S–Video VCR use the AV2 S–Video 21 pin terminal.



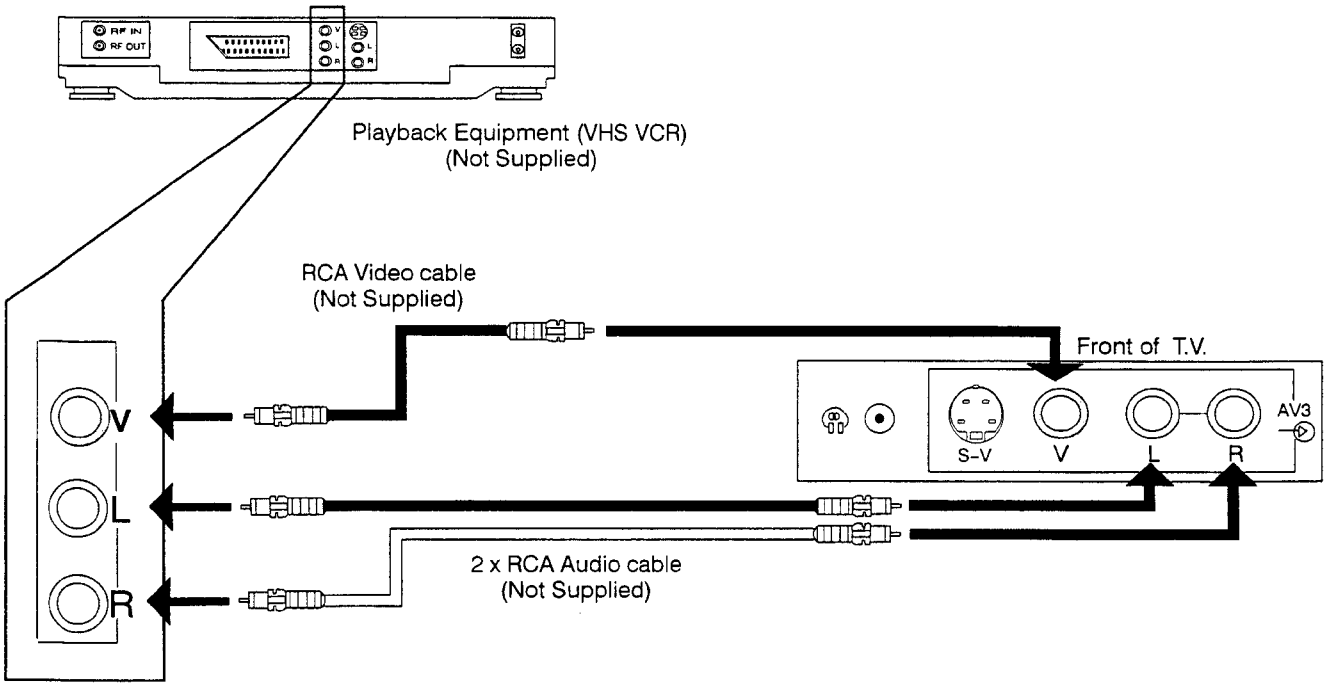
Via the AV3 4 Pin S–Video and RCA Audio terminals



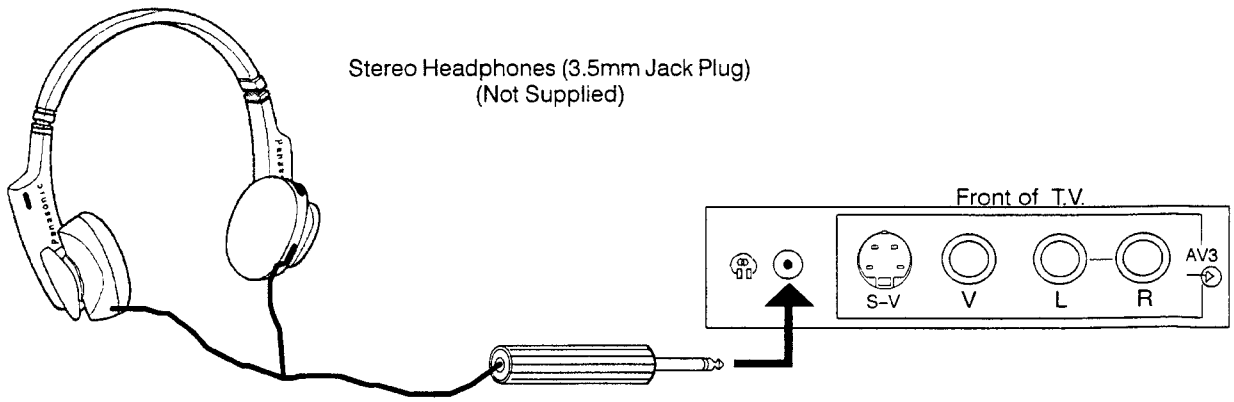
Via the rear AV2 RCA Audio Out terminals



Via the front AV3 Video and Audio (RCA) terminals



Headphones Terminal

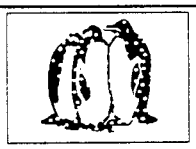
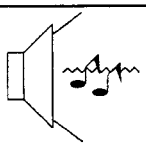
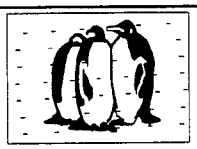
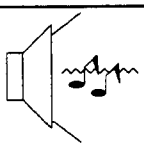
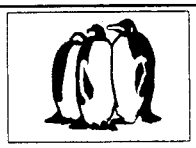
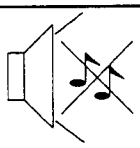
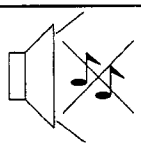
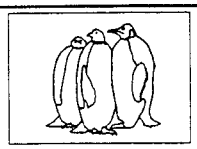
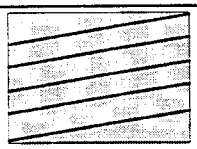
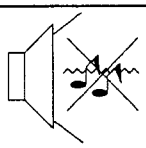
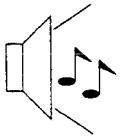


Notes :

1. Cables shown are not supplied with this T.V. set.
2. Do not connect a computer with TTL output (5V) to this set.
3. The AV1 and AV2 21 pin terminals can also be used as Outputs to Audio / Video Equipment.
4. The TV speakers will be automatically disconnected while the headphones are connected.

Trouble–shooting

Before calling for service, determine the symptoms and make a few simple checks as shown below.

Symptoms		Checks
Picture	**Sound**	
 Snowy Picture	 Noisy Sound	Aerial location, direction or connection Retune Channel(s)
Multiple Images	Normal Sound	Aerial location, direction or connection Retune Channel(s)
 Interference	 Noisy Sound	Electrical appliances Cars / Motorcycles Fluorescent lights
 Normal Picture	 No Sound	Sound muted (See page 8)
No Picture	 No Sound	Not plugged into A.C. outlet Not switched on Picture / Sound controls set at minimum levels Check if in standby mode
 No Colour	Normal Sound	Colour controls set at minimum levels (See page 9)
 Poor or Distorted Picture	 Weak or No Sound	Retune Channel(s) (See page 6)
Coloured Patches	 Normal Sound	Magnetic Interference from unshielded equipment Receiver moved while switched ON, switch TV off for 30 minutes.

Specifications

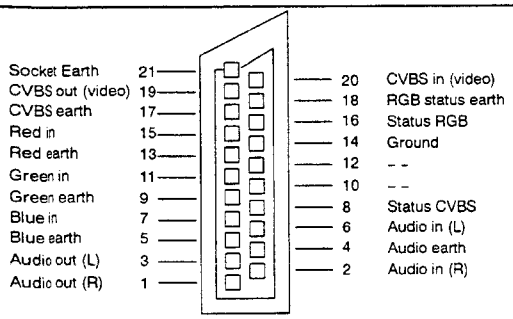
Power Source	220V–240V 50Hz A.C.
Power Consumption **TX–28X2E** **TX–25X2E**	 103 W 98 W
Picture Tube **TX–28X2E** **TX–25X2E** (Diagonal, Visible Diagonal)	FST 110° 70cm, 66cmV 63cm, 59cmV
Audio Output	2 x 10W
Dimensions **TX–28X2E** **TX–25X2E**	**H W D** 551 x 686 x 489mm 507 x 635 x 467mm
Weight **TX–28X2E** **TX–25X2E**	 38kg 32.5 kg

Connections	
Aerial	(Rear of T.V.)
Headphones	3.5mm Jack Plug (Front of T.V.)
AV1	21 pin terminal (Audio / Video in / out) (RGB in)
AV2	21 pin terminal (Audio / Video in / out) (S–Video in) 2 x RCA Audio out
AV3	S–Video 4 pin terminal 2 x RCA Audio in 1 x RCA Video in

Note:
Specifications are subject to change without notice. Weight and dimensions shown are approximate.

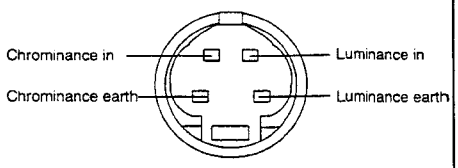
Channel Frequency Table		
Receiving Signal	**Channel Number**	**Band / Name**
PAL B,G	02 – 12	VHF E2 – E12
	11 – 12	VHF H1 – H2 (ITALY)
	13 – 20	VHF A – H (ITALY)
	21 – 69	UHF E21 – E69
	74 – 78	CATV (S01 – S05)
	80 – 89	CATV S1 – S10 (M1 – M10)
	90 – 99	CATV S11 – S20 (U1 – U10)
	121 – 141	CATV S21 – S41 (HYPERBAND)

Audio / Video 21 pin and S–Video 4 pin terminal specifications



Note : The AV2 21 pin terminal has the following differences from the AV1 21 pin terminal :–

PIN 7 – No connection
PIN 11 – No connection
PIN 15 – S.C – In
PIN 16 – No connection
PIN 20 – CVBS in (S–Y in)



Note : Pins 15 and 20 of the AV2 21 pin terminal are dependant on AV2 S–Video / VIDEO switching.